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Fishing behavior of Common Grackles.—On at least 223 occasions from 16 May to 6 June 1974 and 28 March to 23 June 1975 I watched Common Grackles (*Quiscalus quiscula*) fishing at the campus pond, University of Massachusetts, Amherst. Great-tailed Grackles (*Cassidix mexicanus*) (Skutch 1954) and Common Grackles (many authors) have been reported fishing previously, but little information is available on the method by which live fish are captured in flight (Beeton and Wells 1957) or from the shore (Pellet 1926, Snyder 1928, Darden 1974).

I watched the grackles around the pond between 0800 and 1600. They landed frequently on a high point of land, a reed, a rock, a tree limb (Bent 1958) overlooking the pond, or on a piece of floating wood (Follett 1957) and then flew to fish either at the water's edge or over the pond.

The grackles spent no more than a few minutes at any one spot along the shore. They were attracted to water disturbances that I think were made by fish swimming near the surface, although movements of crayfish, toads, frogs, tadpoles, or insects (Hamilton 1951, Bent 1958) cannot be excluded. At times the grackles waded into the water with their tails elevated (see also Forbush 1929) and plunged their heads under the surface for food. Although Common Grackles have been reported to catch up to three fish in succession before flying away (Snyder 1928,

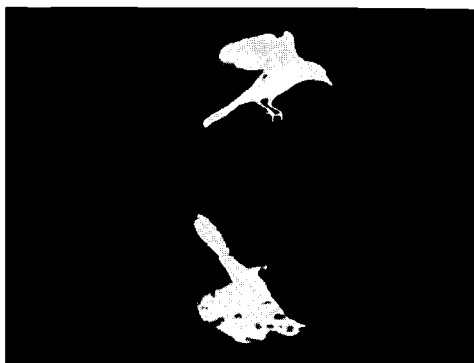


Fig. 1. Common Grackle hovering over the water as indicated by the bird's reflection. This negative print emphasizes the posture of the bird before entry into the water.

Beeton and Wells 1957, Darden 1974), I never saw them with more than one fish at a time.

When grackles flew from one part of the pond to another over the water, they glided for 3 to 5 m before landing. Fish near the surface in the path of their flight usually made rapid tail flips, followed briefly by fast swimming. Periodically a grackle dropped, hovered over the water surface (see Cottam 1943, Beeton and Wells 1957) (Fig. 1), dipped its bill into the water, and often flew off with a fish. In three dives the birds went under until only the tail was visible above the surface (cf. Townsend 1912) but usually only their feet and breast feathers touched the water (Beeton and Wells 1957). Fishing success from shore was 87 (including three crayfishes) with at least 107 apparent misses; in-flight success was 21 with 8 misses. In addition, I saw 36 birds with fish in bills but did not know their fishing site.

After catching a fish, a grackle either ate it on the shore or flew off with it. I saw grackles holding either fish (Darden 1974) or crayfish with one foot while eating on the ground or in trees. In one case the grackle removed all of the appendages of a crayfish before eating the tail meat. In at least 10 cases a grackle that caught a fish left some of the carcass behind when challenged by another grackle.

The sex of Common Grackles that fish has been reported in only one case (Beeton and Wells 1957), a female. I saw male and female grackles in this study. Immature grackles were seen by the pond twice on 4 June 1974 and between 4 June and 23 June 1975 but they did not fish. In three cases I saw adults catch fish from the shore and feed pieces of the carcass to fledglings.

Grackles have been seen feeding on dead alewives (Hamilton 1951), perch (Cahalane 1944), and gizzard shad (Cottam 1943), but my grackles showed a greater preference for live rather than dead fish. One grackle pulled a dead goldfish to shore, pecked at it briefly and then left it. Another bird picked a dead common shiner from the surface, brought it to shore, ate part of it, and then abandoned the remains. When a live fish was caught, it was never willingly abandoned. The attraction of grackles to water disturbances, their frequency of misses, and in 33 cases the

movement of fish in the bird's bill or after it was dropped on the ground (Townsend 1919, Beeton and Wells 1957) suggests that the fish caught were alive. Grackles have been reported to beat the fish on rocks (Pellet 1926) and concrete (Taverner 1928), but I have not seen them do so.

In nine occasions I identified fish species the grackles ate when the bird was chased from its catch. Five fish were golden shiners (*Notemigonus crysoleucas*), three were goldfish (*Carassius auratus*), and one was a dead common shiner (*Notropis cornutus*) taken from the water surface. All the fish I retrieved were headless and had impressions left on the carcass by the bird's bill. The fish except for the common shiner were fresh with nonclotted blood, and in two cases the carcass moved spontaneously. In other instances the size (5 to 9 cm), shape, and color were distinctly those of a fish but the species could not be identified.

Fishing by Common Grackles is geographically widespread, being reported from Illinois (Cahalane 1944, Pellet 1926), Massachusetts (Townsend 1912, 1919), Michigan (Beeton and Wells 1957), Mississippi (Darden 1974), New York (Hamilton 1951), Ontario (Follett 1957), and South Carolina (Cottam 1943). As Common Grackles are omnivorous (Bent 1958), it is not clear how much any one population relies upon fish as a food source in relation to the availability of other food items.

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